

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A medical implant for the controllable delivery of at least one pharmaceutical compound to a localized area within a patient, said implant comprising:

an implantable medical device having a surface and a gradient coating formed on at least a portion of said surface, said coating having at least two bioabsorbable polymer layers, two of said at least two bioabsorbable polymer layers incorporating at least one releasable pharmaceutical compound, each of said two bioabsorbable polymer layers incorporating at least one releasable pharmaceutical compound and having at least one physical property affecting the releasability of said releasable pharmaceutical compound that differs from said other bioabsorbable layer, wherein said at least one physical property of said polymer layer affecting the releasability of said at least one pharmaceutical compound is molecular weight and wherein said at least one releasable pharmaceutical compound is a macrolide antibiotic;

wherein said medical device is selected from the group consisting of stents, probes, catheters, pacing leads, vascular grafts, access devices, in-dwelling access ports, valves, plates, barriers, supports, shunts, discs, and joints.

Claim 2 (currently amended): The medical implant of claim 1 wherein said medical device is a selected from the group consisting of stents, probes, catheters, micro particles, pacing leads, vascular grafts, access devices, in-dwelling access ports, valves, plates, barriers, supports, shunts, discs, and joints.

Claim 3 (currently amended): The medical implant of claim 2 wherein said stent is selected from the group consisting of vascular stents, biliary stents, and esophageal esophageal stents.

Claims 4-5 (canceled).

Claim 6 (previously presented): The medical implant of claim 1 wherein said molecular weight range from about 1 kDa to 100,000 kDa.

Claim 7 (currently amended): The medical implant of claim 1 wherein said bioabsorbable polymer layers comprise a bioabsorbable polymer selected from the group consisting of poly(caprolactone), poly(lactic acid), poly(glycolic acid), ~~poly(ethylene vinyl acetate)~~, collagen, heparinized collagen, ~~polyvinyl pyrrolidone~~, ~~polytetrafluoroethylene~~, ~~polyethylene glycol~~, ~~polystyrene~~, ~~acrylates~~, ~~polyesters~~, ~~epoxides~~, ~~silicones~~, ~~cellulose~~, and copolymers thereof.

Claims 8-9 (canceled).

Claim 10 (previously presented): The medical implant of claim 1 wherein the macrolide antibiotic is rapamycin or analogues and derivatives thereof.

Claim 11 (canceled)

Claim 12 (currently amended): A method for making a controllable drug releasing gradient coating for the surface of an implantable medical device having a generally tubular structure, said method comprising the steps of:

forming a first bioabsorbable polymer layer on said surface of said implantable medical device, said first polymer layer containing at least one releasably bound pharmaceutical compound and having at least one physical property affecting the releasability of said at least one pharmaceutical compound; and

forming at least one additional bioabsorbable polymer layer on said first polymer layer, said at least one additional layer containing at least one releasably bound pharmaceutical compound, said additional polymer layer differing in said at least one physical property affecting the releasability of said at least one pharmaceutical compound from said first bioabsorbable polymer layer, wherein said at least one physical property of said bioabsorbable polymer layers affecting the releasability of said at least one pharmaceutical compound is molecular weight and wherein the at least one releasably bound pharmaceutical compound is a macrolide antibiotic.

Claim 13 (currently amended): The method of claim 12 wherein said implantable medical device having a generally tubular structure is a stent or a catheter.

Claim 14 (currently amended): The method of claim [[13]] 12 wherein said implantable medical device having a generally tubular structure [[stent]] is a self-expanding stent.

Claim 15 (currently amended): The method of claim [[13]] 12 wherein said implantable medical device having a generally tubular structure [[stent]] is a mechanically expandable stent.

Claim 16 (currently amended): The method of claim 13 wherein said implantable medical device having a generally tubular structure [[stent]] is a stent made of a bioresorbable material.

Claim 17 (canceled).

Claim 18 (previously presented): The method of claim 12 wherein said molecular weights range from about 1 kDa to 100,000 kDa.

Claim 19 (currently amended): The method of claim 12 wherein said bioabsorbable polymer layers comprise bioabsorbable polymers [[are]] selected from the group consisting of poly(caprolactone), poly(lactic acid), poly(glycolic acid), ~~poly(ethylene-vinyl acetate)~~, collagen, heparinized collagen, ~~polyvinyl pyrrolidone~~, ~~Polytetrafluoroethylene~~, ~~Polyethylene glycol~~, ~~Polystyrene~~, ~~Acrylates~~, ~~Polyesters~~, ~~Epoxides~~, ~~Silicones~~, ~~Cellulose~~, and copolymers thereof.

Claim 20 (previously presented): The method of claim 12 wherein said at least one releasably bound pharmaceutical compound is contained within adjacent polymer coatings.

Claim 21 (canceled)

Claim 22 (previously presented): The method of claim 20 wherein the macrolide antibiotic is rapamycin or analogues and derivatives thereof.

Claim 23 (previously presented): The method of claim 12 wherein said at least one releasably bound pharmaceutical compound is coupled to said polymer coating.

Claim 24 (canceled)

Claim 25 (previously presented): The method of claim 23 wherein the macrolide antibiotic is rapamycin or analogues and derivatives thereof.

Claim 26 (currently amended): A medical implant for the controllable delivery of at least one pharmaceutical compound to a localized area within a patient, said implant comprising:

an implantable medical device having a surface and a gradient layering of two or more differing molecular weight bioabsorbable polymers coated on at least a portion of said surface;

wherein said gradient layering of differing molecular weight bioabsorbable polymers includes one or more releasable pharmaceutical compounds, and optionally includes one or more blank bioabsorbable polymer layers;

and further wherein the differing molecular weight polymers are selected to controllably affect the releasability of said at least one pharmaceutical compound;

wherein said implantable medical device is selected from the group consisting of stents, probes, catheters, pacing leads, vascular grafts, access devices, in-dwelling access ports, valves, plates, barriers, supports, shunts, discs, and joints.

Claim 27 (previously presented): The medical implant of claim 26 wherein the gradient layering comprises a highest molecular weight polymer layer closest to the surface and the lowest molecular weight polymer layer farthest from the surface.

Claim 28 (previously presented): The medical implant of claim 26

wherein the gradient layering comprises a non-linear gradient of layers of differing molecular weight polymers.

Claim 29 (currently amended): A method of controlling the release of a drug from an implantable medical device, said method comprising:

forming a gradient layering of two or more differing molecular weight bioabsorbable polymers on a surface of said implantable medical device, said gradient layering containing at least one releasably bound pharmaceutical compound, and optionally includes one or more blank bioabsorbable polymer layers; wherein the differing molecular weight polymers are selected to controllably affect the releasability of said at least one pharmaceutical compound; and

placing the medical device in contact with a patient's body, wherein said degradation of the differing molecular weight polymer layers affects the releasability of said at least one pharmaceutical compound;

wherein said implantable medical device is selected from the group consisting of stents, probes, catheters, pacing leads, vascular grafts, access devices, in-dwelling access ports, valves, plates, barriers, supports, shunts, discs, and joints.

Claim 30 (previously presented): The method of claim 29 wherein the gradient layering comprises the highest molecular weight polymer layer closest to the surface and the lowest molecular weight polymer layer farthest from the surface.

Claim 31 (previously presented): The method of claim 29 wherein the gradient layering comprises a non-linear gradient of layers of differing molecular weight polymers.